A COMPILATION OF LANDFILL PRACTICES IN ONONDAGA COUNTY

PREPARED BY:
THE ONONDAGA COUNTY DEPARTMENT OF HEALTH
DIVISION OF ENVIRONMENTAL SANITATION

C

COUNTY OF ONONDAGA
EXECUTIVE DEPARTMENT
DIVISION OF RESEARCH AND PUBLIC INFORMATION

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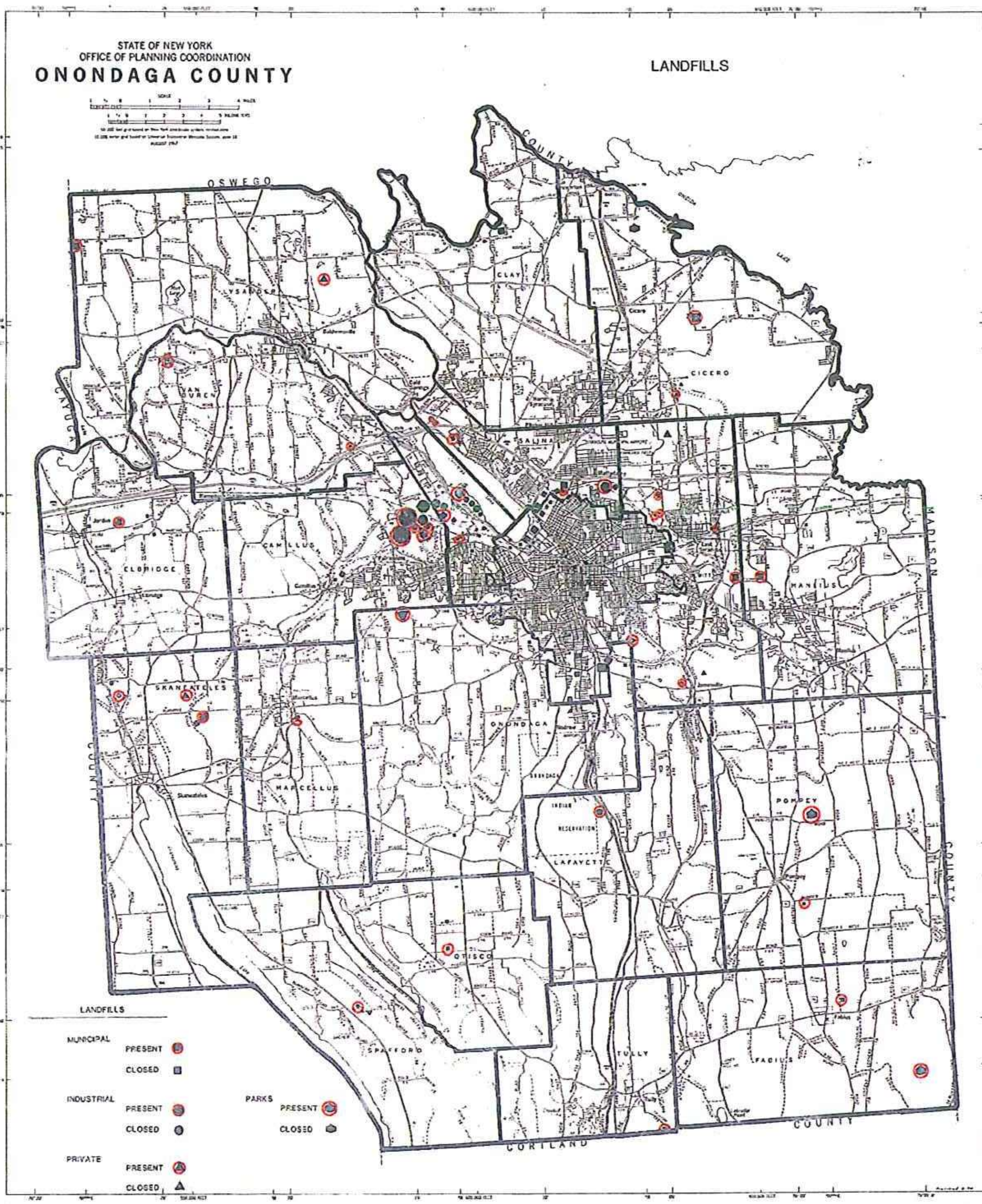

STATE OF NEW YORK
OFFICE OF PLANNING COORDINATION
ONONDAGA COUNTY
LANDFILLS
OSWEGO
CLAY
CICERO
VAN BUREN
LYSANDER
SALINA
CAMILLUS
ELBRIDGE
MANLIUS
SKANEATELES
MARCELLUS
ONONDAGA
POMPEY
INDIAN RESERVATION
LAFAYETTE
OTISCO
SPAFFORD
TULLY
FABIUS
CORTLAND
COUNTY
MADISON
LANDFILLS
MUNICIPAL
PRESENT
CLOSED
INDUSTRIAL
PRESENT
CLOSED
PARKS
PRESENT
CLOSED
PRIVATE
PRESENT
CLOSED

[redacted]

III. HISTORICAL SITES (Continued)

After searches of records and employee interviews, it was learned that many of the 96 closed sites could contain minor amounts of industrial wastes. As of this time, no information has surfaced of large scale disposal of hazardous materials.

The City of Syracuse has operated over 30 disposal areas throughout the City for disposal of the trash collections. The practice prior to 1960 was to allow the paper and wood products to burn to reduce the volume of waste. Any industrial wastes received (sites adjacent to Hiawatha Boulevard and Seventh North Street received deliveries from several industries) were mixed with the domestic collections for disposal. Due to the burning which was allowed, we assume that only small amounts of volatile organics or solvents were received. No stockpiling of barrelled industrial wastes have been reported.

Due to the large number of closed disposal sites and the lack of any documentation of what or who disposed of materials at these sites, a monitoring and inspection program is indicated.

The attached chart, Operators of Facilities, lists the present status of past and present landfills of record. Following this chart is a detailed listing of landfills and recognized materials to have been received. Appendix "A" contains the letter and survey form used to obtain the prior history from the municipalities.

VILLAGE OF MINOA

Operating prior to 1/63. Finished approximately 1969. Taken over by Town of Manlius sometime in early 1960's. Municipal and commercial wastes.

VILLAGE OF SOLVAY

1. Boyd Road and Matthews Avenue - Started operating ? Still being operated. Demolition, residential items such as furniture, tires, etc., are deposited here at present time.

2. Hazard Street - Started sometime in 1930's. Closed approximately 1945.

3. Charles Avenue and Driscoll - Started sometime in 1930's. Closed approximately 1945.

CITY OF SYRACUSE

1. Hiawatha Boulevard - Both sides from North Salina to Erie Boulevard West. Development: Industrial and commercial area. Both City and public dumped here.

2. Meadowbrook Drive - 900, 1000, 1100 Blocks. Development: Residential housing area. Both City and public dumped here.

3. West Glen Avenue - from S. Salina to Midland Ave. Develoment: Residential housing and church. City only dumped here.

4. Cannon Tract - 600 block Cannon Street. Development: Residential housing. City only dumped here.

5. East Brighton Ave. - Brighton Landfill. Development: Super highway. Both City and public dumped here. Started sometime around 1943. Discontinued as a landfill on Feb. 5, 1964. This site was then used as a brush burning and diseased elm burning site. According to files, this site never stopped dumping and was a smoke problem for years. Dump taken over by O.C.S.W.D.A. 11/10/71, completed 1977. Area covered with approximately a 10-40 ft. depth of dirt. Brighton Towers built adjacent to site.

6. Salina St. South - W. Seneca Turnpike to Clary Jr. High School. Development: Jr. High School, swimming pool, residential. City only dumped here.

7. Dorwin Avenue - Salina to Valley Drive. Development: farm for growing crops. City only dumped here. Completed sometime around 2/64.

CITY OF SYRACUSE

8. Ballantyne Rd. - S. Salina to Midland Ave. Development: Apartments and residential housing. City only dumped here.

9. Newell St. West - 300-400 Blocks. Development: Brighton Family Center, residential. City only dumped here.

10. Velasko Rd. - Area at Velasko Rd. and Onondaga St. - next to House of Providence. Development: Still undeveloped. City only dumped here.

11. Velasko Rd. - Area at southwest corner of Velasko Rd. and Onondaga Blvd. Development: Still undeveloped City only dumped here.

12. Thompson Rd. - from Burnet Ave. to Erie Blvd. - both sides. Development: Rte. 690 expressway; Holiday Bowl. City and public dumped here.

13. 4th North St. - from Hiawatha Blvd. E. to Lemoyne Ave. Development: Industrial development. City and public dumped here.

14. 6th North St. - Hiawatha Blvd. E. to Lemoyne Ave. Development: Industrial and commercial use. City and public dumped here.

15. 7th North St. - from Wolf to Buckley Rd. Development: Still undeveloped. City and public dumped here. Started sometime in 1968, closed in late 1971. Final closure still needed according to letter of 1/3/73.

16. Park St. - From Park St. to 7th North - Rte. 81 to Wolf St. Development: Industrial and commercial development - motel, truck warehouse, mobile homes. City and public dumped here. Started 3/64, completed sometime around 1971.

17. Grand Ave. - from 600 block to Velasko Rd. Development: Still undeveloped. City and public dumped here.

18. State Fair Grounds - Infield. Development: Race track. City only dumped here. (See also State Fairgrounds Dumps under "Parks")

19. State Fair Blvd. - to Dead End. Development: Commercial building. City and public dumped here.

20. E. Brighton Ave. - E. Seneca Tpk. - 6 DUMPS IN AREA. Development: Homes, commercial buildings, Nob Hill Apts.; some still vacant. City and public dumped here.

CITY OF SYRACUSE

21. Rock Cut Road - 2 SITES. Development: New Road #481; Waste Authority. City and public dumped here.

22. McDonald Rd. - behind Corcoran High School. Development: School athletic field. City only dumped here.

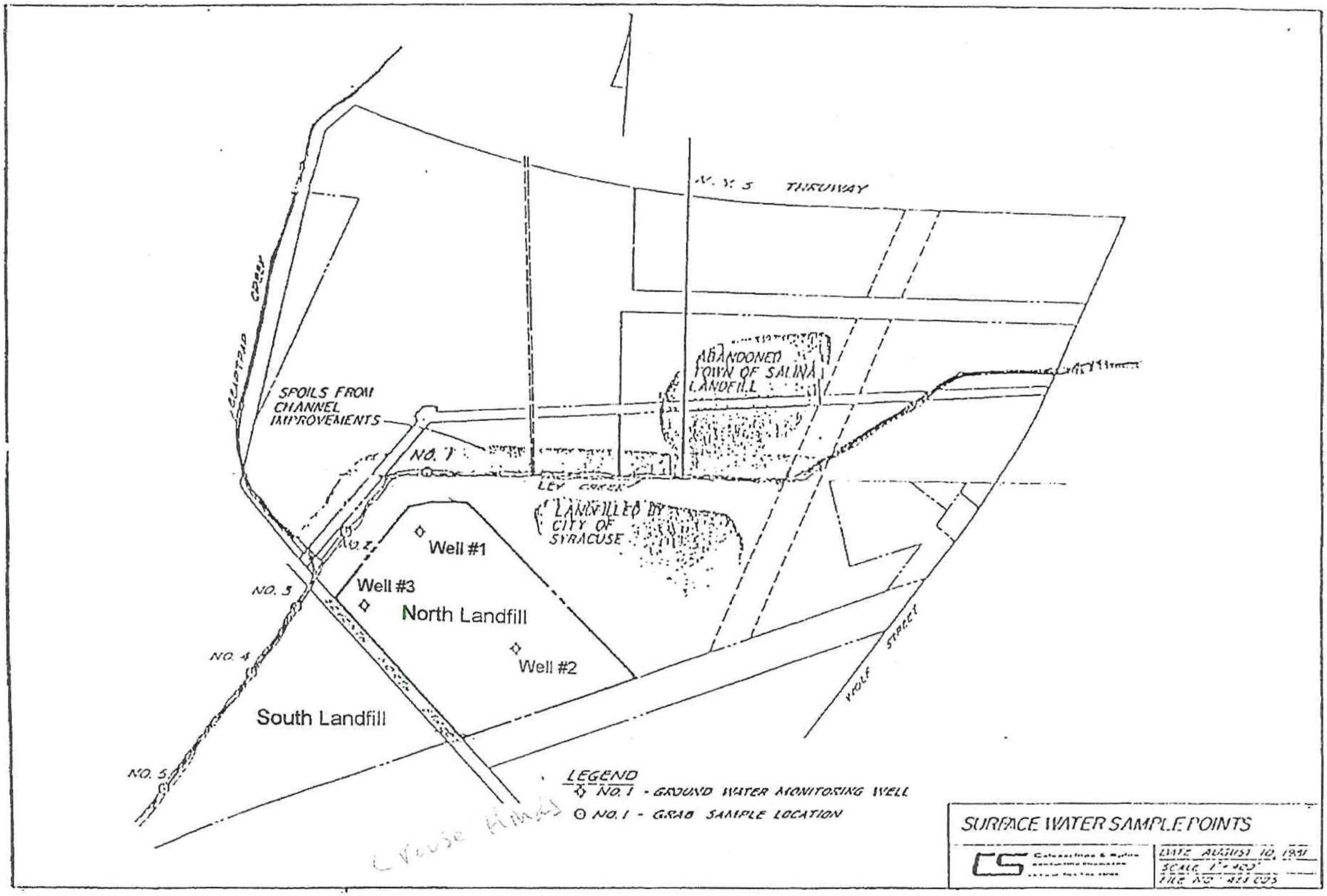
23. Ball Park - Regional Drive. Development: No development. City and public dumped here.

24. South Midler and Caleb - Closed in late 1930's. Municipal wastes and cinders.

25. Clinton Square - Erie Boulevard built over filled in Erie Canal. Started ? Finished ? Municipal wastes and cinders.

ONONDAGA COUNTY SOLID WASTE DISPOSAL AUTHORITY

Refer to #5, East Brighton Ave., Brighton Landfill, under "City of Syracuse"



Source: Calocerinos & Spina, 1981

Figure 4: North Landfill Groundwater and Ley Creek Surface Water Sample Locations

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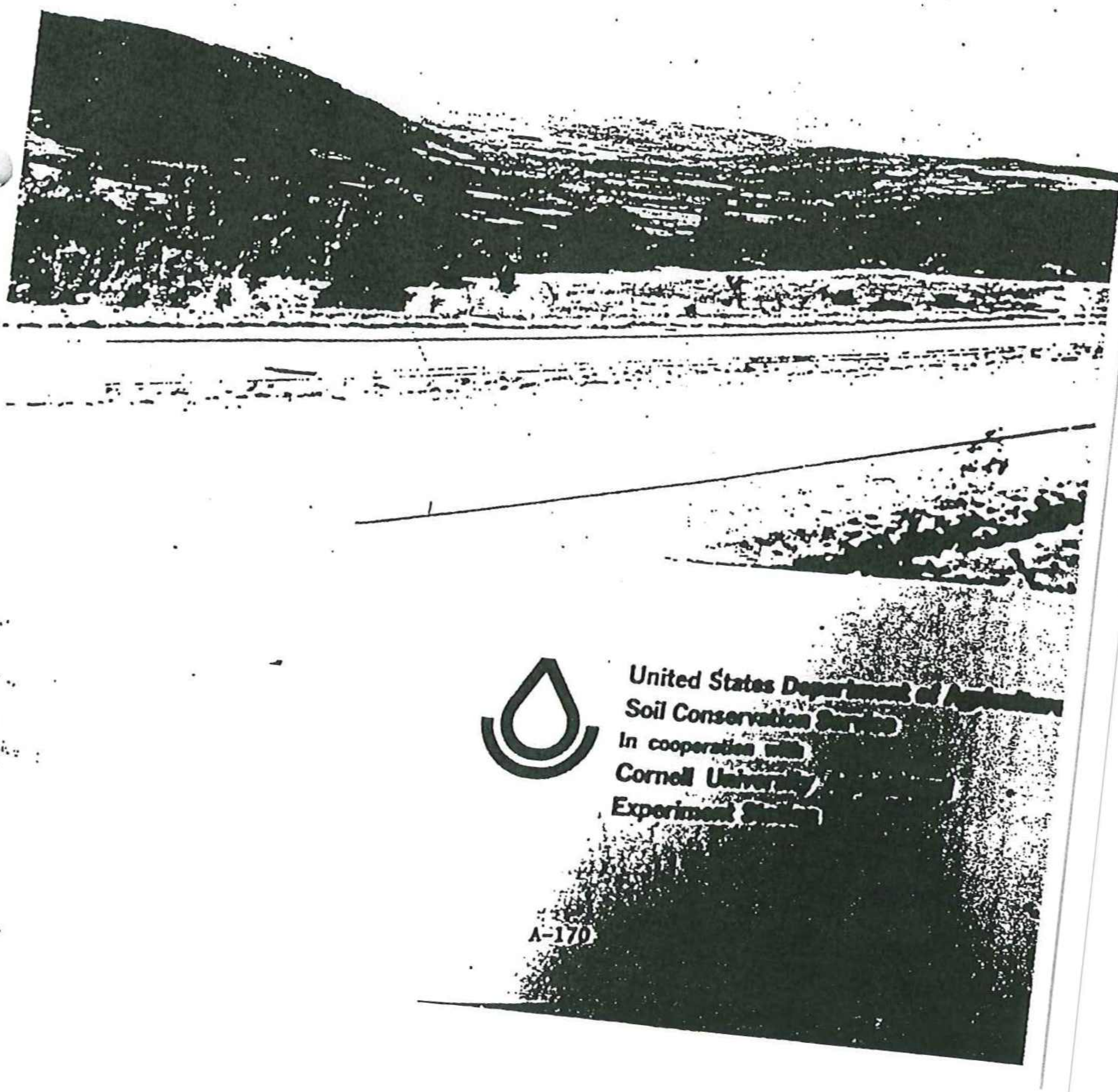
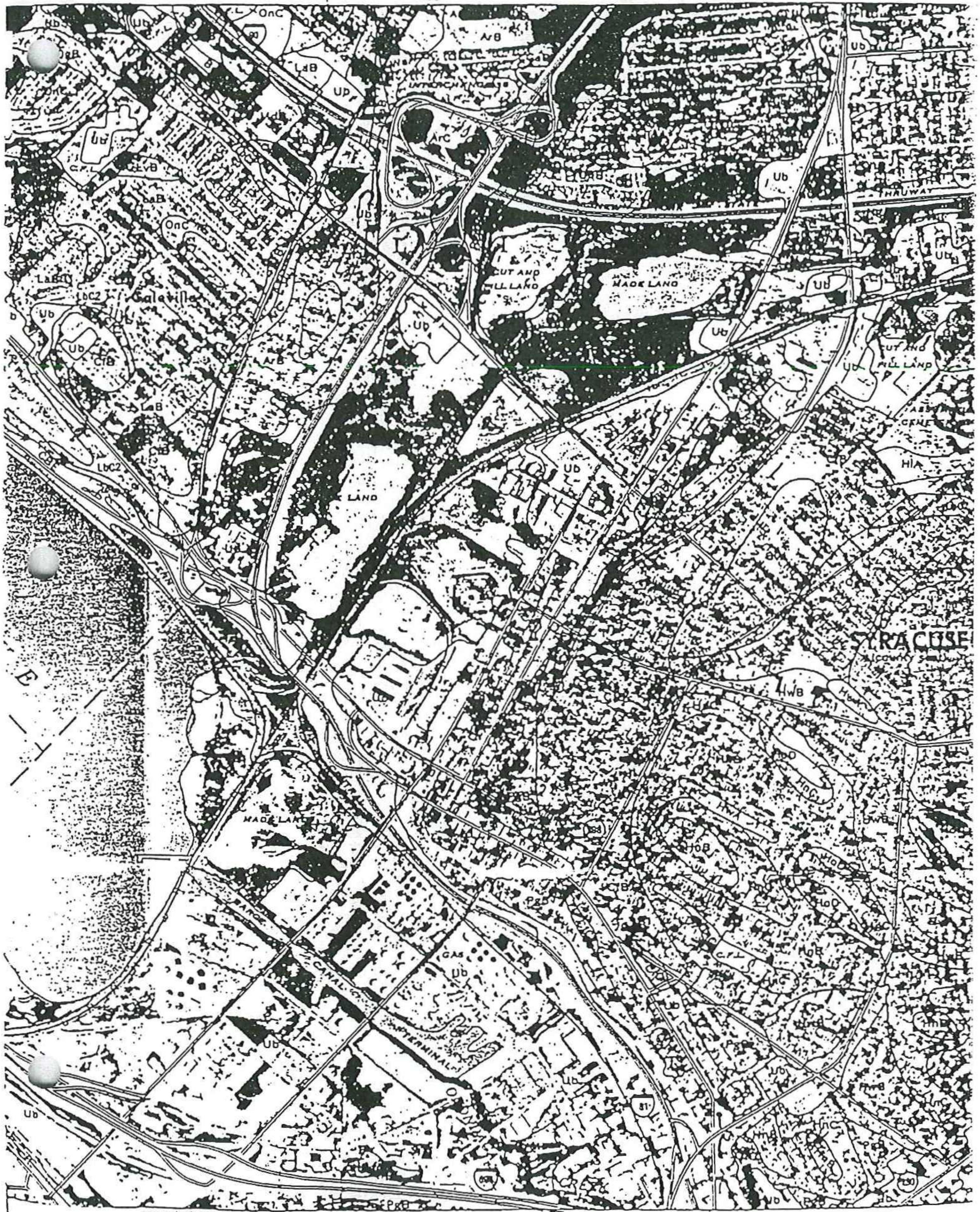
SOIL SURVEY OF

Onondaga County, New York



United States Department of Agriculture
Soil Conservation Service
In cooperation with
Cornell University Agricultural
Experiment Station

A-170


AgA
WaB
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CUT AND FILL LAND
MADE LAND
CUT AND FILL LAND
ArB
CfB
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HIA
LAND
SYRACUSE
WB
MADE LAND
CANAL
TERMINAL
GAS
81
690

-eable substrata are the major limitations for nonfarm uses.

:presentative profile of Lyons silt loam, in a .ure in the town of Lafayette, 100 feet west of ıb Road, 1,300 feet north of Amidon Road, 3,700 north of U.S. Highway 20:

A1—0 to 7 inches, very dark gray (10YR 3/1) silt loam; common, medium, distinct, dark-brown and dark reddish-brown root mottles; moderate, medium, granular structure; friable; many roots; 5 percent coarse fragments; neutral; clear, wavy boundary.

B21g—7 to 11 inches, grayish-brown (10YR 5/2) silt loam; common, medium, distinct yellowish-brown mottles and dark-brown and dark reddish-brown root mottles; moderate, medium, subangular blocky structure parting to moderate, medium, granular; friable; common fine roots; 5 percent coarse fragments; neutral; clear, wavy boundary.

B22g—11 to 22 inches, grayish-brown (10YR 5/2) silt loam; common, fine and medium, distinct yellowish-brown and light-gray mottles; few fine, distinct, dark-brown and dark reddish-brown root mottles; weak, coarse, subangular blocky structure; firm, slightly sticky; few fine roots; common fine and medium pores; 10 percent coarse fragments; neutral; gradual, wavy boundary.

IIB3g—22 to 34 inches, grayish-brown (10YR 5/2) gravelly loam; common, medium, distinct yellowish-brown and few, medium, faint gray mottles; weak, medium and coarse, subangular blocky structure; friable; few fine and medium pores; 15 percent coarse fragments; mildly alkaline (weakly calcareous); gradual, wavy boundary.

C—34 to 50 inches, grayish-brown (10YR 5/2) gravelly loam; weak, thick, platy structure; firm; 25 percent coarse fragments; moderately alkaline (strongly calcareous).

The solum ranges from 20 to 40 inches in thickness. Depth to carbonates ranges from 12 to 40 inches. Depth to bedrock is more than 40 inches and is generally more than 6 feet. Content of coarse fragments ranges from 5 to 30 percent between depths of 10 and 40 inches and from 20 to 60 percent below a depth of 40 inches. The upper 10 inches of soil generally formed in local alluvium and is the only part that either is generally free of coarse fragments or is less than 5 percent by volume.

The A1 and Ap horizons range from black (N 2/0) to dark grayish brown (10YR 3/2). In unlimed areas reaction in the A horizon ranges from medium acid to neutral.

The B horizon ranges from olive gray (5Y 4/2) to gray (5YR 5/1) and has higher chroma mottles ranging from few to many. Texture of the fine-earth fraction ranges from fine sandy loam to light clay loam. Reaction in the B horizon ranges from slightly acid to moderately alkaline (calcareous).

The C horizon ranges from dark gray (5Y 4/1) to pinkish-gray (5YR 6/2) with or without higher chroma mottles. Texture of the fine-earth fraction is fine sandy loam, loam, or silt loam that is platy, firm, and moderately alkaline (calcareous).

Lyons soils are closely associated with the somewhat poorly drained Kendaia, Appleton, and Darien soils. All formed in similar material.

Lyons silt loam (Ly).—This level or nearly level soil is on flats or depressions on uplands that receive runoff or seepage from adjacent higher lying soils. Most areas are smaller than 20 acres and only a few areas are larger than 30 acres.

Included with this soil in mapping are small spots of somewhat poorly drained Kendaia, Appleton, Darien, or Manheim soils on slight knolls or around the edge of the mapped area. These better drained soils make up as much as 20 percent of some areas, but they have little effect on use and management. Also included are small spots of very poorly drained Canandaigua soils or Palms muck in depressions or along drainageways generally near the center of larger mapped areas. These wetter soils make up as much as 15 percent of some areas, and they require extensive drainage for crops.

If undrained, this soil is suited to short-season hay crops, pasture, and trees. Only a few undrained areas are used for crops. If adequately drained, this soil is suited to most crops commonly grown in the county, especially annual short-season row crops. This soil responds readily to drainage if adequate outlets are available. Capability unit IVw-3; woodland suitability group 4w1.

Made Land, Chemical Waste

Made land, chemical waste (Ma) consists mainly of bed areas of chemical waste material. It includes both active beds on which waste is deposited and older beds on which vegetation is becoming established.

The waste material is residue from various chemical products. It is pumped as a slurry into diked beds where it is allowed to settle. The clear water or clear solution, which contains sodium chloride and calcium chloride, is then carefully drained off, and the material is consolidated by further drying. The waste beds are gradually built up to a predetermined height by diking with an impervious core material and coating the outside of the dike with gravel and soil material on which vegetation is established. The enclosed area is then filled by pumping in controlled amounts of slurry, which is allowed to settle, drain, and dry.

The fresh waste material is about 50 percent calcium carbonate, 11 percent calcium hydroxide, 11 percent calcium chloride, 9 percent sodium chloride, 5.5 percent silica, 4.5 percent calcium oxide, 4 percent magnesium oxide, 2.5 percent calcium sulfate, and 2 percent aluminum and iron oxides (*6*). Reaction (pH) is generally more than 10.

The residual material in the older beds, after draining and leaching, is about 68 percent calcium carbonate, 1 percent calcium chloride, 11 percent silicon dioxide, 12 percent calcium oxide, 7 percent magnesium oxide, and 2 percent calcium sulfate (*6*). Reaction (pH) is 8.0 to 8.5.

This material has a siltlike texture and has little or no structural development. It is moderately well drained and somewhat poorly drained on the higher terraces and somewhat poorly drained and poorly drained on lower terraces near lake level. These physical conditions are suitable for lime-tolerant plants that can further tolerate somewhat impeded drainage and reduced aeration (*6*). The material is practically devoid of nitrogen, phosphorus, and potassium.

Fertilizer test-plot results indicate phosphorus is most limiting, but the best plant growth is secured by using a complete fertilizer of a 1–2–1 ratio along with such added organic matter as sewage sludge.

Vegetation begins to grow on the beds after 20 to 25 years. This length of time is needed for toxic salts to leach from the top 1 to 2 feet of the beds.

The hazard of erosion and frost heaving on the exposed beds are major factors in preventing establishment of vegetation. After adequate vegetative cover is established, however, these hazards are eliminated or greatly reduced.

Present vegetation on the older beds consists of cottonwood and natural and European black alder trees and wild carrot and sweetclover forbs. All of these have roots at a depth of more than 1 foot. Many kinds of grass and such trees as aspen and white birch have roots at a depth of less than 1 foot.

These areas may have future potential for such open-space uses as parks and golf courses. Part of the older waste-bed area adjacent to the New York State Fair Ground has been developed into a large parking area, which is mainly used at the time of the State Fair. Onsite investigation of areas is necessary to determine use and management needs. Not assigned to a capability unit or woodland suitability group.

Madrid Series

The Madrid series consists of deep, well-drained, moderately coarse textured and medium-textured soils. These soils formed in loamy glacial till fairly high in content of sand. They are on upland till plains and drumlins.

In a representative profile the surface layer is brown to dark-brown fine sandy loam 9 inches thick. Between depths of 9 and 19 inches, the upper part of the subsoil is brown and reddish-brown, friable fine sandy loam. Between depths of 19 and 42 inches, the subsoil is firm, reddish-brown, slightly heavier fine sandy loam. At a depth of 42 inches, the till substratum is reddish-brown to weak-red, firm fine sandy loam. A few gravelly and cobbly fragments are scattered throughout the profile.

Normally the water table in Madrid soils is at a depth of more than 36 inches, but in places it is at a depth of about 36 inches for short periods in spring and during wet periods. It is perched on the moderately slowly permeable or slowly permeable substratum. Roots of deep-rooted plants penetrate readily, but the main rooting zone is in the upper 30 to 40 inches. This zone has moderate to high available water capacity. Plants begin to show signs of wilting after 10 to 15 rainless days. Madrid soils are early to warm up. Their capacity to supply phosphorus is medium, and to supply potassium and nitrogen, low to medium. Most areas need lime. Crops respond very well to fertilization. Madrid soils are among the best soils in the county for many crops, including vegetables. They have few limitations for many nonfarm uses.

Representative profile of Madrid fine sandy loam, 2 to 8 percent slopes, in a grass meadow in the town of Van Bur : south of Conners Road, 1,350 feet east of the intersection of Kingdom Road:

Ap—0 to 9 inches, brown to dark-brown (7.5YR 4/2) fine sandy loam; weak, fine and medium, granular structure; very friable; many fine pores; many roots; 5 percent gravel; neutral; abrupt, wavy boundary.

B1—9 to 19 inches, brown (7.5YR 5/4) fine sandy loam, grading with increasing depth to reddish brown (5YR 5/4); weak, fine and medium, granular structure; friable; many fine pores; common roots; 5 percent gravel; neutral; clear, wavy boundary.

B&A'2—19 to 23 inches, reddish-brown (5YR 5/3) fine sandy loam; weak, fine and medium, subangular blocky structure; friable; surrounding areas of slightly darker, reddish-brown (5YR 4/3), slightly heavy fine sandy loam weak, medium and coarse, subangular blocky structure and 1/16- to 1/8-inch-thick coats of pinkish-gray (7.5YR 7/2) fine sandy lo faces; firm; few fine pores; few roots. gravel, few cobbles; medium acid; clear, w ary.

B2t—23 to 42 inches, reddish-brown (2.5YR 4/4) loam; weak to moderate, coarse, ang structure; firm; thin patchy clay films o many pores; nearly continuous clay linin pores; few roots; many black nodules of or roots; 5 percent coarse fragments weathered or partly weathered gravel a slightly acid; gradual, wavy boundary.

C—42 to 74 inches, reddish-brown (2.5YR 4/4) t (2.5YR 4/2) heavy fine sandy loam; weak, structure with thin, patchy clay films on firm; common pores; thin, discontinuous in larger pores; very few roots; some bodies of sandy clay loam as much as 4 i and 2 to 3 feet long; 5 percent coarse common, weathered or partly weathered cobbles; common black nodules; neutr part, moderately alkaline (calcareous) at 70 inches.

The solum ranges from 36 to 60 inches in thick to carbonates ranges from 36 to 84 inches. Depth t more than 40 inches and generally is more th Content of coarse fragments ranges from 5 to 25 the solum below a depth of 10 inches. In places t inches of the solum is stone free. Content of coars ranges from 5 to 35 percent in the C horizon.

The Ap horizon ranges from dark brown to grayish brown. It has hues of 7.5YR to 2.5Y, valu and chromas of 2 and 3. Texture of the fine-ear ranges from fine sandy loam to loam. In undist the A1 horizon ranges from 3 to 8 inches in thick very dark brown and brown to dark grayish br hues of 7.5YR to 2.5Y, values of 2 to 4, and chroma The A2 horizon, where present, has hues of 5Y values of 4 to 6, and chromas of 3 and 4. Texture earth fraction ranges from fine sandy loam to lig unlimed areas reaction in the A horizons ra strongly acid to neutral.

The A horizon distinctly interfingers into the resulting in A&B and B&A horizons. In this int zone, washed sand grains that have values of 6 chromas of 1 and 2 coat the B-horizon material.

The Bt horizon has hues of 2.5YR, value of 4 chromas of 3 and 4. Texture of the fine-earth frac from fine sandy loam to light loam. Reaction in th ranges from medium acid to neutral.

The C horizon ranges from weak red to dark gr in hues of 2.5YR to 2.5Y. Texture of the fine-eart fine sandy loam or loam. Reaction in the C hor from slightly acid to calcareous in the upper always calcareous below a depth of 84 inches.

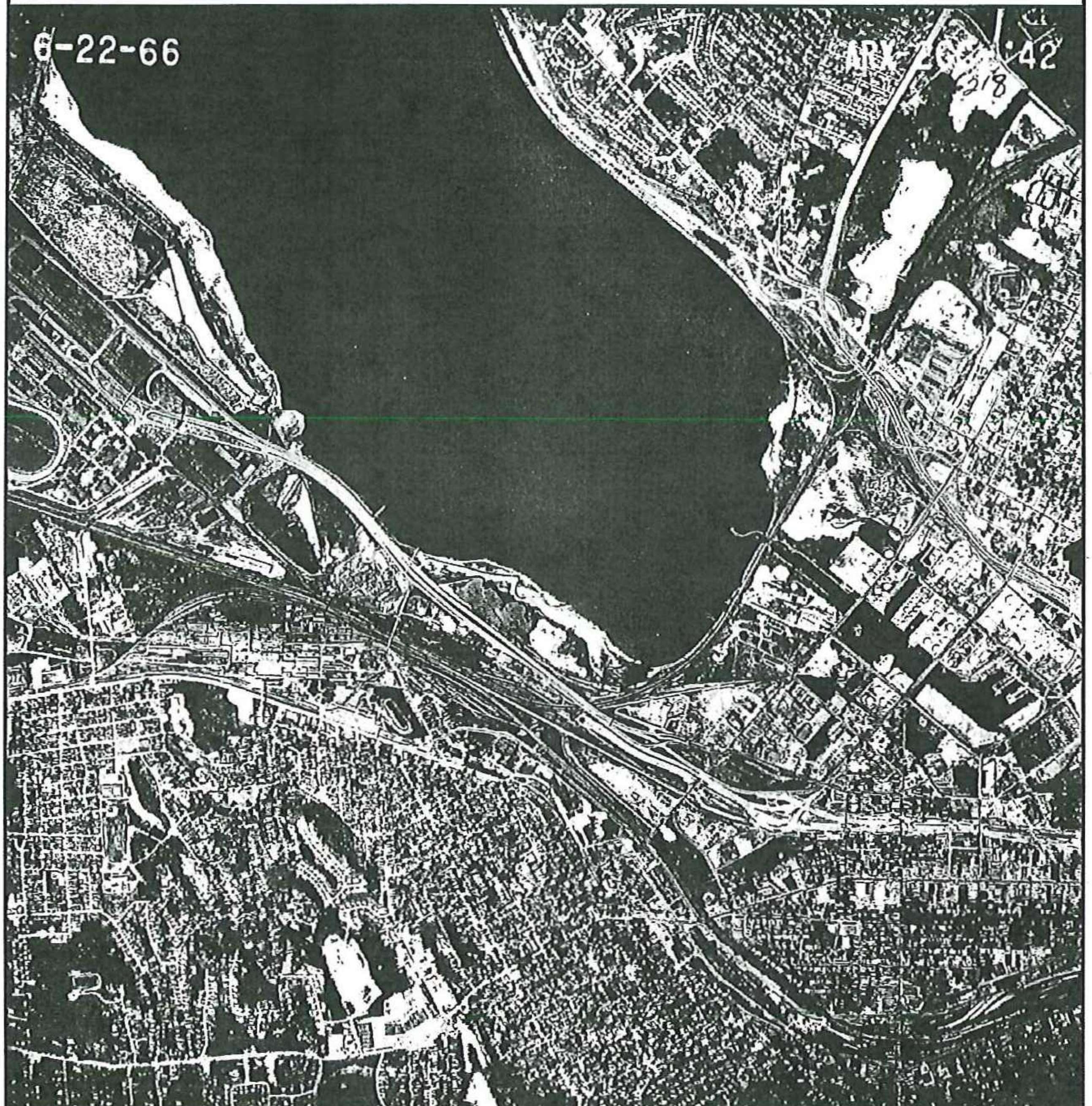
Madrid soils are closely associated with the mod drained Bombay and Hilton soils and the some drained Appleton soils. All formed in similar mat

Madrid fine sandy loam, 2 to 8 perce (MdB).—This gently sloping or gently indul is on t... ...here it receives little or from adjacent higher lying soils. The slopes vex in shape. Areas of this soil range from large in size, and some areas are larger acres. This soil has the profile described as r ative of the series.

Included with this soil in mapping are sm of Hilton soils and Bombay soils in shallo sions or drainageways. These wetter soils m much as 10 percent of some areas, and th tillage in spring. Also included are a few sm of Howard soils in small outwash deposits.

This soil is suited to crops, pasture, and t suited to most crops commonly grown in th including vegetables. Crops respond to ma

1966 7-1-66



2000 0 2000 Feet

500 0 500 Meters

Approximate Scale

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TAMS

Figure 4-10

Aerial Photograph of Southwestern Area of Onondaga Lake, June 1966


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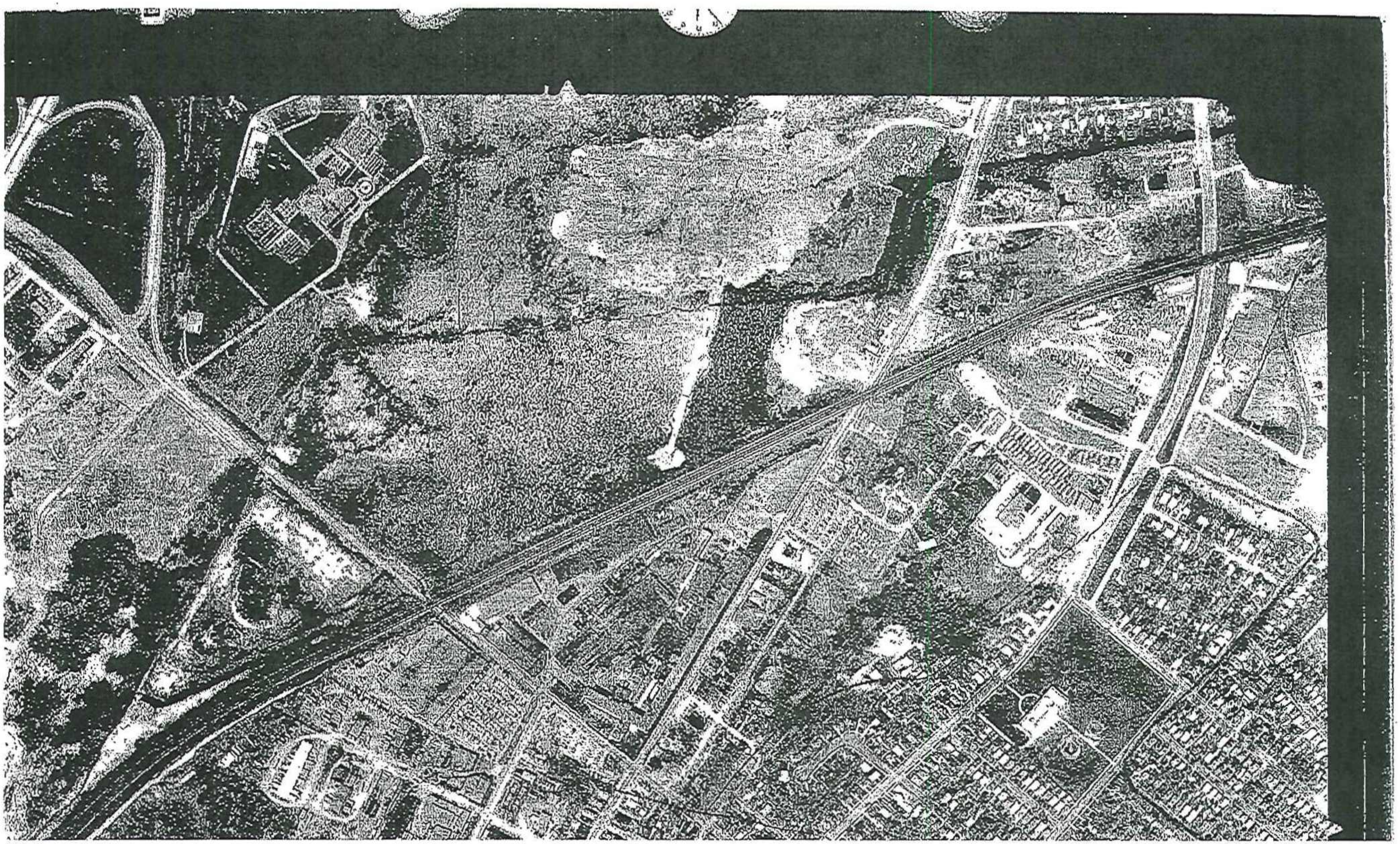

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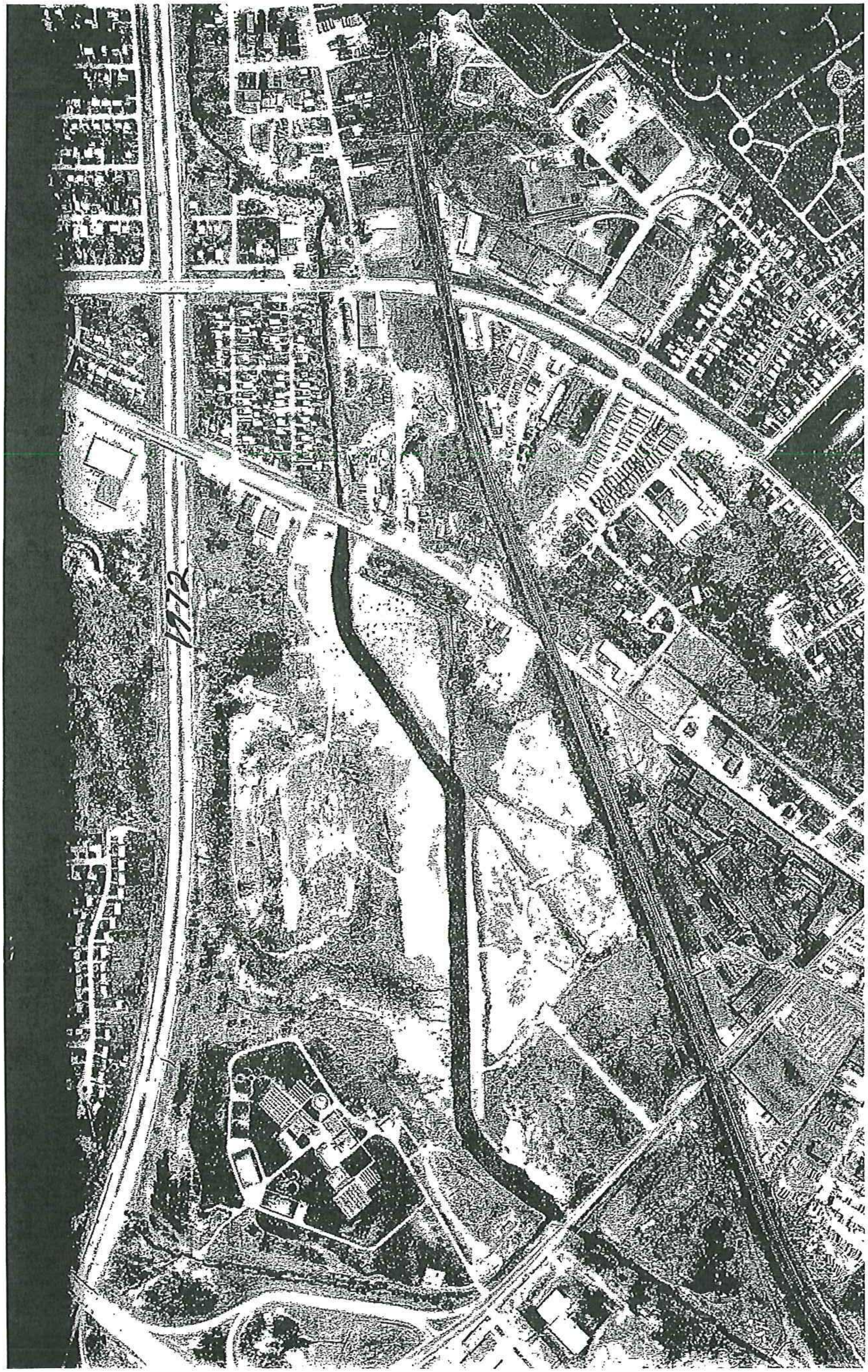
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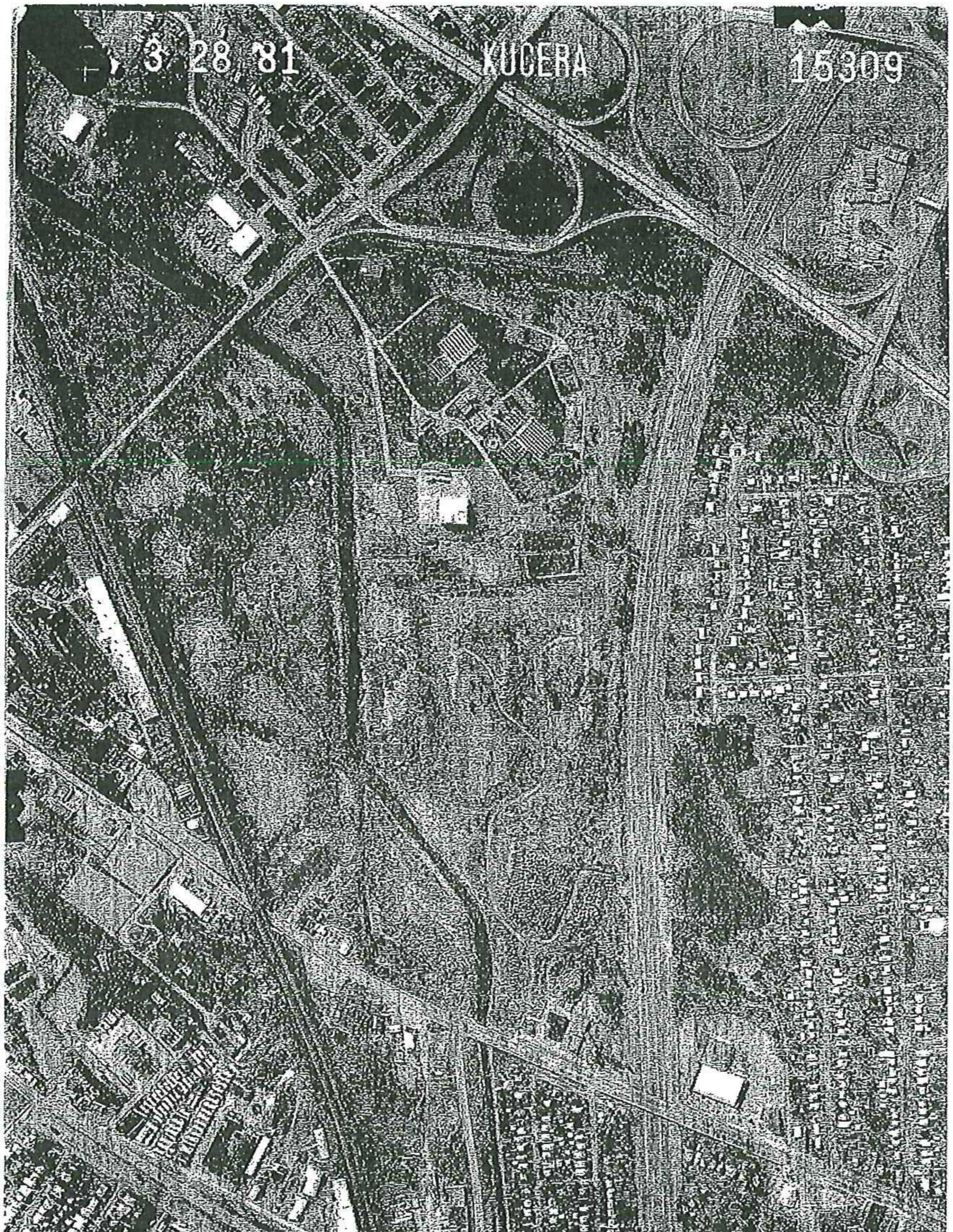
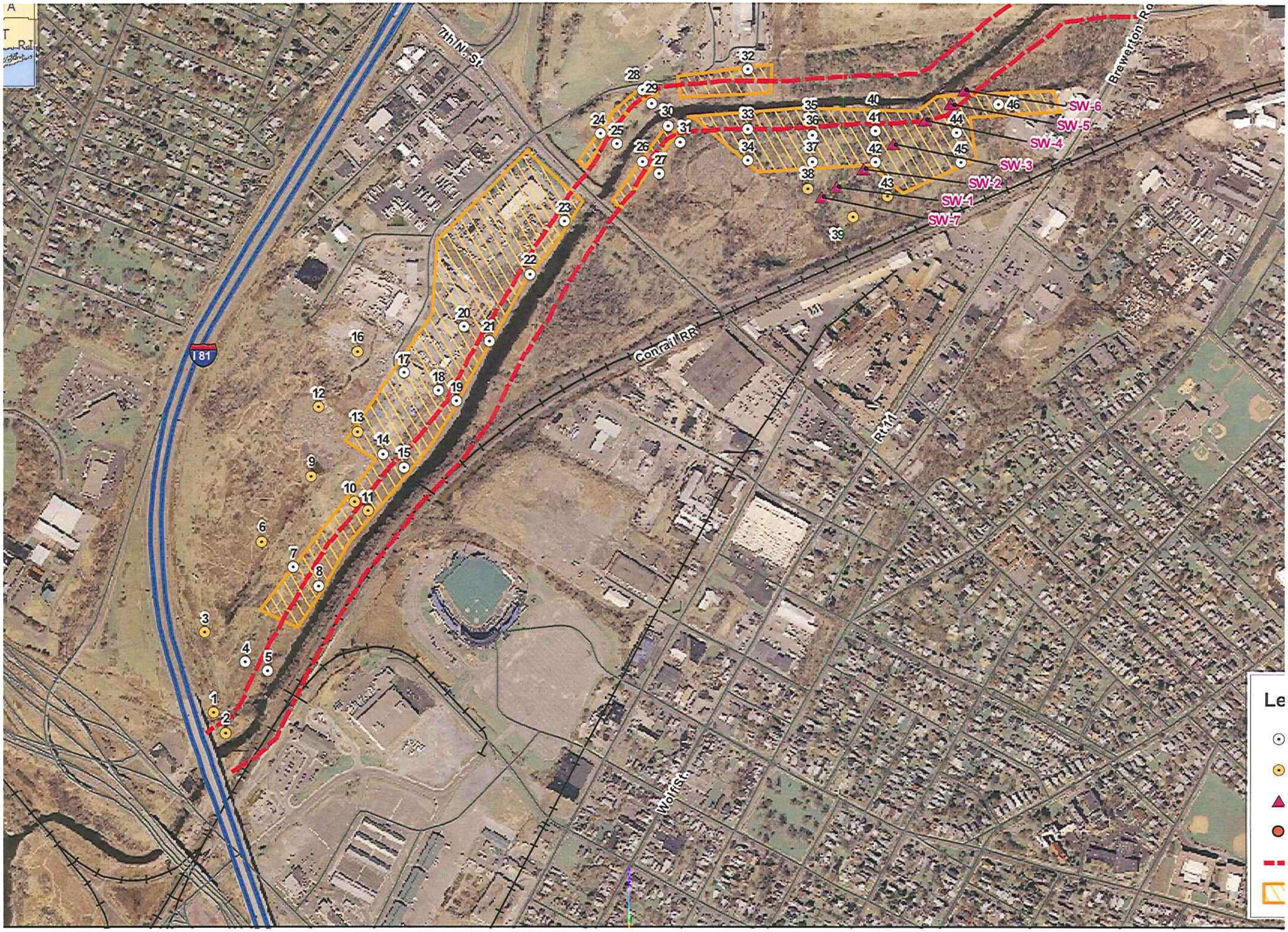
1981





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WATER POLLUTION CONTROL RESEARCH SERIES

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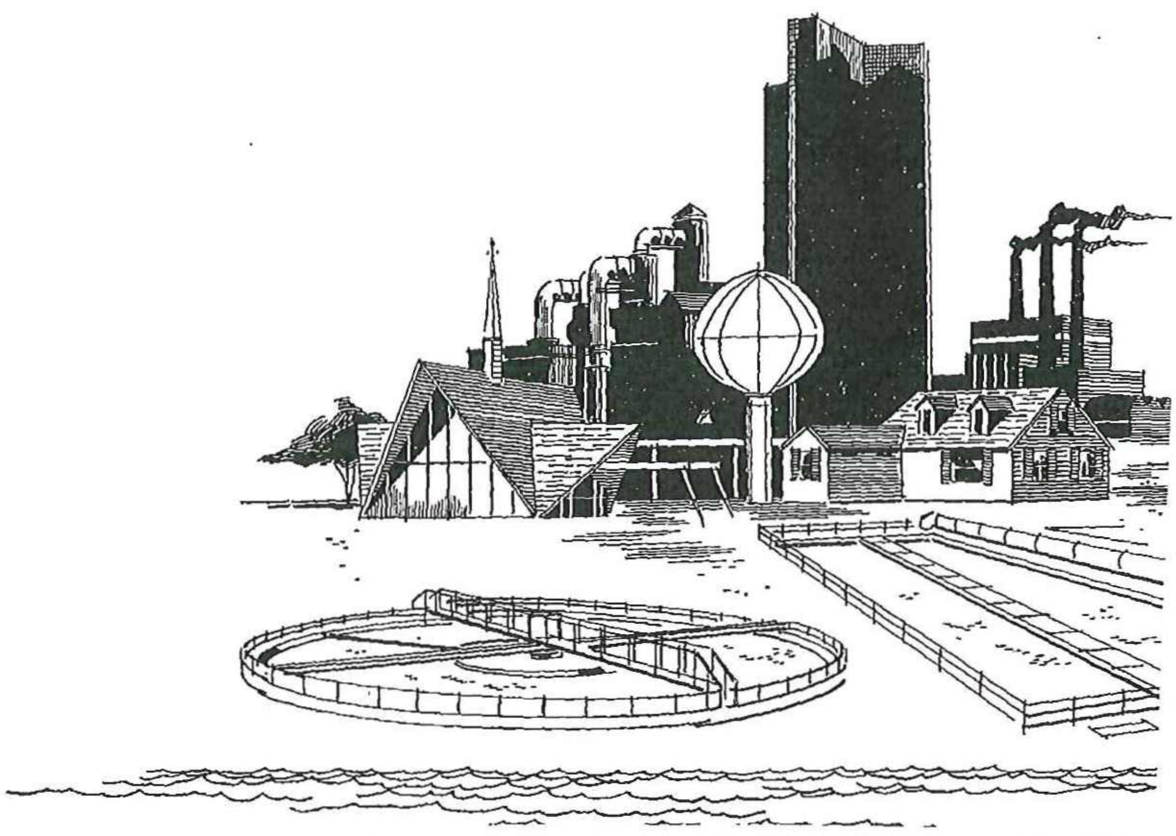
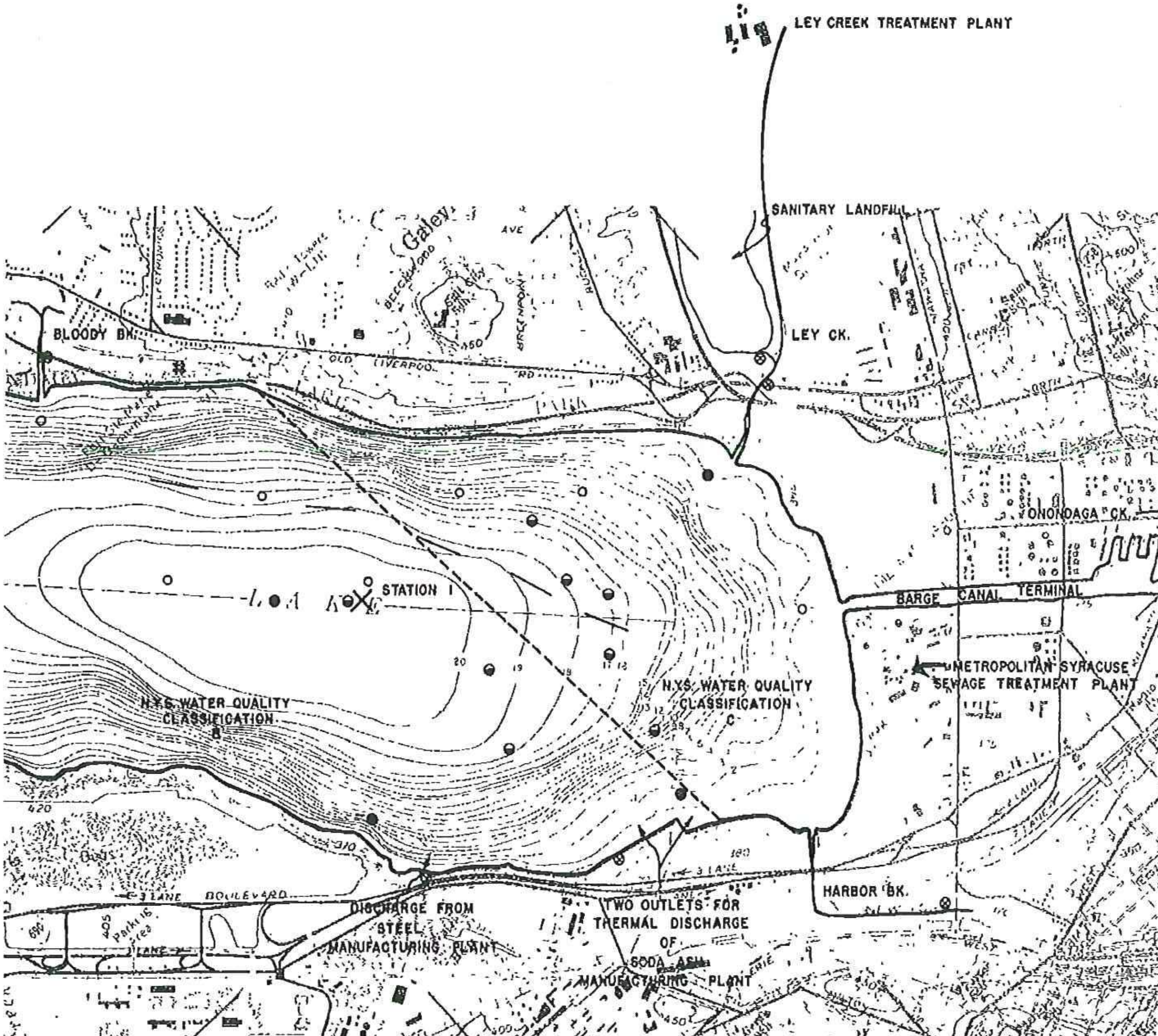
Onondaga Lake Study

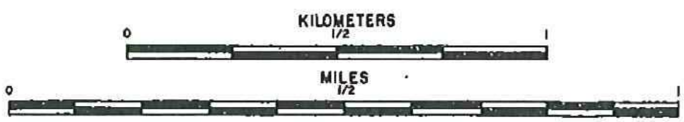


ENVIRONMENTAL PROTECTION AGENCY • WATER QUALITY OFFI



LEGEND

- WESTON GEOPHYSICAL CABLE LOCATIONS
- ALPINE CORE LOCATIONS
- BENTHOS CORE LOCATIONS
- JENKINS CORE LOCATIONS
- DEPTH SYNOPTIC SAMPLING LOCATIONS
- N.Y.S. WATER QUALITY CLASSIFICATION BOUNDARY
- WASTE DISCHARGE SURVEY SAMPLING LOCATIONS



ONONDAGA LAKE SAMPLING LOCATIONS

O'BRIEN & GERE
CONSULTING ENGINEERS & LAND SURVEYORS
SYRACUSE NEW YORK

DATE:	
SCALE:	
FILE NO.:	

REVISIONS

I-2

SECTION 2 - RECOMMENDATIONS

It is recommended:

1. That the new treatment facilities at the Metropolitan Sewage Treatment Plant be constructed as presently planned, to effect significant reductions in BOD and phosphorus.

2. That the effluent from the new Treatment Plant be discharged to the surface of the lake, thus increasing the mixing of this discharge with lake waters.

3. That additional measures be taken to reduce the BOD discharges now emanating from Ley Creek. Programs presently being undertaken, such as dredging of the creek bottom and sealing areas of the creek where portions of leachate enter the creek, will result in reductions. Further measures may need to be taken pending evaluations subsequent to these programs.

4. That the improvements now underway for the Syracuse Interceptor Sewer System be made to ensure the proper operations of all intercepting and overflow devices.

5. That measures be taken to prevent bacterial contamination of any lake waters from the Syracuse combined sewer overflows that periodically discharge to Onondaga Creek and Harbor Brook. This will require investigations of methods more economical than have been proposed for this interceptor system to date.

6. That measures be taken to prevent Cu and Cr concentrations in the lake from exceeding 0.04 and 0.02 mg/l respectively by monitoring and controlling the appropriate flows.

7. That the bottom sediments not be disturbed by any artificial means until such time as they may show adverse effects on the overlying waters.

8. That a monitoring program of Onondaga Lake be conducted for the continual measurement of chemical and biological parameters to define the physiological factors pertinent to lake biota and projections of the same.

9. That the above program include measurements of major discharges entering the lake for those parameters related thereto in order to assess the effects of improved waste treatment facilities on the lake, and to assist in water quality management of the lake.

Although nitrogen analyses were performed on only three of the nineteen sampling dates, the results were consistent, and showed that Ley Creek was the major contributor of both ammonia and organic nitrogen. An unusually high organic nitrogen concentration (6.9 mg/l - 19 mgd) was measured on August 25, 1969. The source of this nitrogen was not determined.

Separate chemical analyses were conducted on a stream emanating from an extensive landfill operation located just north of the Ley Creek discharge. These analyses showed high BOD and nitrogen concentrations. It was noted that amounts discharged by Ley Creek substantially exceed amounts discharged from the Ley Creek Treatment Plant in many cases. These differences could be accounted for by leaching of this landfill operation. The flow from the landfill stream was not gauged and thus amounts discharged could not be determined.

Nine Mile Creek is the major contributor for many of the inorganic chemical species in Onondaga Lake. This stream discharges the major portion of calcium, chloride, sodium, iron and potassium in that order. Table 5-5 illustrates that the LRE values of calcium and chloride are 724.4 and 846.3 mg/l respectively. The LRE value for sodium from this creek is 480.2 mg/l. The LRE values of chloride and sodium for Nine Mile Creek closely approximate and, in the case of calcium exceed the mean concentration observed in the Lake. Although these results cannot be interpreted as meaning Nine Mile Creek is solely responsible for the presence of these species in Onondaga Lake, it does indicate the relative impact this creek has on the lake with respect to the other discharges. The fact that the LRE value of calcium exceeds the observed mean concentration in the lake can be explained on the basis of precipitation of calcite ($CaCO_3$). This is in accordance with results of the geochemical studies.

A major steel manufacturer contributed major portions of the chromium and nitrate. Thirty nine and one half percent (39.5%) of the chromium measured can be accounted for by this discharge, equivalent to an LRE value of 0.01 mg/l. High nitrate values were also measured in this discharge, possibly owing to the use of nitric acid (HNO_3) in their pickling operations. Approximately five percent (4.8) of the total copper measured was attributable to this discharge having an LRE value of 0.01 mg/l.

Table 5-4 shows that Onondaga Creek is a major contributor of magnesium, total phosphorus, organic nitrogen and ortho-PO_4 in that order. The high percentages of total phosphorus and OPO_4 appears to be related to the interceptor overflows into Onondaga Creek as was determined by a comparison of Onondaga Creek and the Metropolitan Treatment Plant concentrations on individual sampling dates, and corresponding